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INDUSTRIAL DEVELOPMENT AND COOPERATION ACTIVITIES: ENVIRONMENTALLY SUSTAINABLE INDUSTRIAL DEVELOPMENT

Report by the Director-General

Summary

In response to specific requests of policy-making organs, updates previous progress reports, identifies policy issues and describes in detail the scope of work under the thematic priority "environment and energy".

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Introduction

1. The General Conference in its resolution GC.5/Res.6 requested the Director-General to take into consideration in implementing the UNIDO environment programme the need: to enhance the transfer of cleaner production technologies and techniques to developing countries under most favoured nations arrangements; to promote the capacity of developing countries to develop and produce such technologies and techniques; to promote technical cooperation among developing countries in environment-related matters; to further enhance in-house analytical capacity in the field of environment and energy; to disseminate information on environmental risks associated with industrial processes and technology, and measures for protection against such risks; and to take appropriate measures to comply with all relevant recommendations of Agenda 21 and seek a leading role for UNIDO in their implementation. The Conference also requested the Director-General to take into account in implementing UNIDO energy activities the need of developing countries to utilize better their own energy resources in order to increase their industrial production; to develop their capacity to produce energy-related technologies for industrial development, and to focus on the provision of energy for rural industries. The Director-General was requested to present through the Board to the General Conference at its sixth session a report on the implementation of the resolution.

2. The report of the Director-General (GC.6/5-IDB.13/12, chap. V) was presented to the Industrial Development Board at its thirteenth session. As one of the five development objectives of UNIDO, environmentally sustainable industrial development is also covered in one of the sections of chapter II of the *Annual Report of UNIDO 1994*, which reviews the activities of the Organization that primarily address that development objective.

3. At its thirteenth session, the Board in decision IDB.13/Dec.7 requested the Director General, in implementing the UNIDO environment and energy programme to continue efforts:

(a) To utilize resources available under the Global Environment Facility and Capacity 21;

(b) To increase UNIDO involvement in projects supporting the implementation of international environmental protocols, treaties and conventions;

(c) To enhance the transfer of clean technologies for building developing countries' capacities in absorbing cleaner technologies and minimizing wastes;

(d) To improve the capabilities of developing countries to collect and disseminate industrial environment and energy information.

The Director-General was also requested to report on developments in that respect to the sixth session of the General Conference.

4. Subsequently, at its fourteenth session, the Board in its decision IDB.14/Dec.2 took note of the proposals of the Director-General for improving UNIDO programmes through a strengthened focus as contained in document IDB.14/13 and, *inter alia*, requested the Director-General to submit to the sixth session of the General Conference proposals on the seven programmatic themes and focusing UNIDO activities for the 1996-1997 biennium.

5. Against this evolution in policy directives, the General Conference will have before it at least four documents in which the environment and energy-related programmes and activities undertaken in the current and the forthcoming bienniums of the Organization are described.

(a) Draft medium-term plan, 1996-2001, chapter II.B.4, pp. 13-14 (IDB.13/10);

(b) Progress report for 1994 on specific UNIDO activities (GC.6/5, chap.V);

(c) *Annual Report of UNIDO 1994* (IDB.14/10, chap. II.A.1 and II.A.4);

(d) Improving UNIDO programmes through a strengthened focus (IDB.14/13, chap. IV.B, paras. 51-79).

The documents depict UNIDO environment and energy-related activities at varying levels and degrees of detail. Documents IDB.13/10 and IDB.14/13 deal with strategic and programmatic issues while the other two deal with operational activities undertaken by UNIDO.

6. Rather than merely updating the information contained in the above-mentioned documentation, the present document:

(a) Provides information on activities undertaken in 1995 and indicates future lines of action in response to Board decisions IDB.13/Dec.7 and IDB.14/Dec.13;

(b) Describes in greater detail the scope of UNIDO work under the thematic priority "environment and energy";

(c) Identifies policy issues requiring discussion and decision by the General Conference.

I. IMPLEMENTING AGENDA 21 AT INTERNATIONAL AND NATIONAL LEVELS

7. At the international level, during the 1994-1995 biennium, the Organization was engaged in the review process for the implementation of Agenda 21. This entailed participation not only in the preparations for, and deliberations of, the second and third sessions of the Commission on Sustainable Development (CSD) but also in United Nations system-wide coordinative mechanisms supporting CSD. Participation in the review process for Agenda 21 enabled UNIDO to define its role in relation to specific aspects of the implementation of Agenda 21 and to establish a basis for joint action with other agencies in initiatives where industry-related issues played a major role in realizing the objectives of Agenda 21.

8. Developments in 1994 were reported on in document GC.6/5, paragraphs 143-150. During 1995, the Organization concentrated on two issues. The first was chapter 16 of Agenda 21, "Environmentally sound management of biotechnology". On this subject, UNIDO was designated the system-wide Task Manager and prepared the report by the United Nations Secretary-General to the third session of CSD (11-28 April 1995). The second area was chapter 34 of Agenda 21, "Transfer of environmentally sound technology, cooperation and capacity building". For that chapter, in cooperation with the United Nations Department for Policy Coordination and Sustainable Development (UNDPCSD) and the United Nations Environment Programme (UNEP), UNIDO convened a round table on technology transfer, cooperation and capacity-building for sustainable development in Vienna, from 6 to 8 February 1995. The proceedings of that round table provided a major input to the report by the Secretary-General on chapter 34 of Agenda 21, and to the formulation of a work programme adopted by CSD at its third session.

9. During 1996, the Organization will work along three lines:

(a) Following up on the conclusions of the third session of CSD on chapter 16 of Agenda 21 by convening a round table on the safe management of biotechnology. That round table will involve international organizations, industry and non-governmental organizations (NGOs) in assessing the initiatives already taken, additional policy initiatives needed, gaps, capacity-building and information support required to enable developing countries to manage applications of biotechnology in an environmentally sound manner;

(b) Following up on chapter 34 of Agenda 21 by developing interagency initiatives on capacity-building for the transfer of environmentally sound technologies. In the first instance, such initiatives would utilize the UNIDO network of national cleaner production centres (NCPCs) as the foundation for developing the capacities, in client countries, to absorb and disseminate information on environment and energy-related technologies, and to diversify into such areas as chemical safety and worker health;

(c) Preparing for the fourth session of CSD through major contributions to the Committee's review of the issues arising from chapter 34, Transfer of environmentally sound technologies, cooperation and capacity-building; chapter 9, Protection of the atmosphere; the issue of trade environment and sustainable development under chapter 2, International cooperation to accelerate sustainable development in developing countries and related domestic policies; and chapter 3, Combating poverty. UNIDO will also be involved in the Intergovernmental Panel on Forests, established by CSD at its third session (see para. 40 below).

10. At the national level, UNIDO supports the implementation of national sustainable development strategies in several ways. First, it helps countries to define operational initiatives to realize the industry-related components of already-formulated national Agendas 21. The most advanced case is China, where UNIDO worked with the Government in formulating 16 projects in support of the implementation of the national Agenda 21.[1] The projects developed are in the areas of capacity-building for sustainable development, cleaner production and environmental protection, clean energy and transportation, and pollution control. Those projects, worth over $25 million, have been finalized and are being submitted to various bilateral and multilateral sources of funding.

11. A second approach to the implementation of national Agendas 21 is the UNIDO support to the formulation and implementation of strategies for ESID. As previously reported,[2] UNIDO has been engaged in this effort in Madagascar, Morocco, Mozambique and Nepal. ESID strategies are designed to build capacities in client countries that would enable Governments, industry and sections of civil society to establish environmental goals and action plans, develop policy instruments to support the goals of those plans, and to devise appropriate monitoring and enforcement measures to realize those goals. Through the above approaches, UNIDO aims to support developing countries in integrating environmental considerations into industrial activity and policies.

12. These national-level actions are coordinated, wherever appropriate, with the endeavours of

Capacity 21 of the United Nations Development Programme (UNDP), either by drawing upon the conclusions of Capacity 21 programmes or by contributing to them. UNIDO is not, however, executing Capacity 21 programmes, since that financial facility and the programmes funded by it are managed by UNDP under national execution arrangements.

13. UNIDO support to sustainable development strategies is not, however, limited to overall national plans. An innovative approach, called the Area-Wide Environmental Quality Management (AEQM) Plan, attempts to build capacities and define ESID strategies at the levels of regions, municipalities or districts. The objective of the AEQM plan is to analyse the specific impact of productive activity on all environmental systems in a given geographical space, to assess the assimilative capacity of those systems, and based on these two technical assessments, to establish a set of environmental priorities and action plans to improve environment quality and reduce the adverse environmental impact on air, water and land resources. The action plans so drawn up specify the roles of municipal Governments, industry and members of civil society in realizing the environment goals established. At present, UNIDO supports AEQM planning at Dhanbad, India, and in the Bilecik region of Turkey. Depending on the results achieved in implementing the plan, this initiative could form a valuable operational component of national sustainable development strategies.

14. In all the national level actions, UNIDO follows two principles. First, there is a high degree of involvement of Governments, industry and NGOs, to ensure national "ownership" of ESID strategies. Second, building of national capacities is a major component of these programmes.

II. TRANSFER OF TECHNOLOGY FOR CLEANER AND SAFER INDUSTRIAL PRODUCTION

15. At the sector-wide level, the UNIDO/UNEP network of national cleaner production centres (NCPCs) has been reported extensively in other documentation.[3] During 1995, eight NCPCs centres were set up as follows:

Africa: United Republic of Tanzania, Zimbabwe
Asia: China, India
Latin America: Brazil, Mexico
Europe and Newly Independent States of the former Soviet Union: Czech Republic, Slovakia

This network of eight centres has drawn funding of $4.6 million to be disbursed over three years. In one instance, a centre was created through a self-financing arrangement by the host Government. The demand for NCPCs is increasing. During 1994 and 1995, thirteen requests for such centres were received or were under active discussion, as follows:

Africa: Mauritius, Nigeria, South Africa, Tunisia
Asia: Indonesia, Philippines, Thailand
Latin America: Argentina, Ecuador, Peru, Uruguay and a subregional centre for Central America
Europe and Newly Independent States of the former Soviet Union: Hungary, Slovenia

The demand for the NCPC programme, which is a cornerstone of UNIDO's efforts, is constrained only by the resources available to it. It is hoped that, during the course of the 1996-1997 biennium, extrabudgetary contributions will be pledged to achieve the full complement of 20 centres envisaged for this stage of the programme.

16. To widen its profile on the subject of cleaner production, UNIDO is convening an NGO Forum on Cleaner Industrial Production, to be held prior to the sixth session of the General Conference. The Forum will involve business and professional associations, environmental NGOs and others in a two-day discussion designed to raise awareness of the possibilities for, and constraints upon, efforts to achieve cleaner industrial production. The results of the NGO Forum will be submitted to the General Conference. It is anticipated that UNIDO will be able to form partnerships with the NGO community in widening its cleaner production programme.

17. UNIDO sectoral support to the transfer of cleaner technology covers, in particular, the following industries: leather and leather products; agro industries; wood products; textiles; chemicals, pharmaceuticals and biotechnology; pulp and paper; metallurgy; engineering and machine tools. Such support comprises sector-specific projects or programmes at national or regional levels that emphasize resource efficiency (chemicals, water, energy and raw materials), pollution prevention, waste recovery and recycling measures as a primary objective, with effluent/pollutant treatment as an adjunct measure[4].

18. During 1995, UNIDO became a full-fledged member of the Inter-Organization Programme on Sound Management of Chemicals (IOMC). The participating agencies in IOMC (World Heath Organization, UNEP, International Labour Organization, UNIDO, Food and Agriculture Organization of the United Nations and Organisation for Economic Cooperation and Development) provide technical support to the Intergovernmental Forum on Chemical Safety, which has been created under the policy framework of chapter 19 of Agenda 21, Environmentally sound management of toxic chemicals. The Forum is hosted by the Government of Sweden and has 114 participant Member

States. The UNIDO area of concentration in this programme is the development of risk reduction programmes in the manufacture and utilization of toxic chemicals. At present, UNIDO is implementing risk reduction projects worth $5.8 million in various sectors of producing and consuming industries, and another $3.1 million worth of projects are in the pipeline, for which funding is being sought.

III. IMPLEMENTATION OF INTERNATIONAL CONVENTIONS, PROTOCOLS AND AGREEMENTS[5]

19. Several environment-related protocols, conventions and agreements have been concluded by the international community over the last 15 years. As with Agenda 21, the implementation of these internationally agreed instruments forms a policy platform for development of specific activities by UNIDO. In recognition of this fact, the Conference on Ecologically Sustainable Industrial Development (Copenhagen, Denmark, 14-18 October 1991) specifically requested UNIDO to assist developing countries in the implementation of environmental conventions and protocols related to industry.[6] Having analysed the various instruments and policy initiatives, the Organization has established priorities among them, as follows:

(a) Montreal Protocol on Substances that Deplete the Ozone Layer;

(b) United Nations Framework Convention on Climate Change;

(c) Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal;

(d) Convention on Biological Diversity;

(e) The Statement of Principles on Forests adopted by the United Nations Conference on Environment and Development (UNCED);

(f) Global freshwater assessment.

The present chapter defines the areas of support offered by UNIDO in the implementation of these instruments.

A. Montreal Protocol

20. UNIDO is by now well established as an implementing agency of the Multilateral Fund for the Implementation of the Montreal Protocol. UNIDO supports the choice and transfer of technology for the phasing out of ozone-depleting substance (ODS) production and consumption in the refrigeration, foams, halons, aerosols and solvent sectors. From 1992, when it became an implementing agency, to the current year, UNIDO has or is implementing 21 investment projects in 10 countries. The total value of these projects is $45.5 million. In addition, 40 preparatory assistance projects, worth $4.0 million, are being implemented in 26 countries. A further 31 investment projects in 19 countries are in the pipeline, as are 26 preparatory assistance projects in 21 countries. The total value of UNIDO pipeline projects under this source of funds is $108.1 million.

21. While UNIDO is now able to authoritatively define and transfer the most cost-effective technologies for phasing out ODSs, the challenge remains for the Organization to devise ODS phase-out strategies for small-scale industries and for low ODS consuming countries. It is anticipated that the Organization will be able to develop, test and implement those strategies in the 1996-1997 biennium.

B. Framework Convention on Climate Change

22. The United Nations Framework Convention on Climate Change (UNFCCC), although a non-binding treaty, has identified the imperative for "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".[7]

23. In developing countries, industry's share of energy consumption ranges from 27 per cent in Africa and 38 per cent in Latin America and the Caribbean to 49 per cent in Asia and the Pacific. A small number of raw materials-processing industries account for most of this consumption, including iron and steel, non-ferrous metals, chemicals, non-metallic mineral products, textiles and pulp and paper. These sectors are also responsible for a large proportion of industry's share of greenhouse gas emissions and other pollution. Energy consumption is continuing to rise in developing countries, since their improvements in energy efficiency, although considerable, have not kept pace with rising manufacturing output. In addition to industrial growth, there has been structural change in the manufacturing sector away from traditional, labour-intensive light manufacturing to more energy-intensive production and processing of raw materials. Urban growth, electrification, and the development of basic infrastructure all raise energy intensity during industrialization.

24. Through UNFCCC developing nations, like all other countries, are being requested by the world community to contribute to the common goal of reducing greenhouse gas emissions. However, they may have less incentive and less means to do so and will therefore require international assistance.

25. Developing countries need access to the best energy-efficient technologies available on the world market which are relevant to their natural resource endowments and their industrial requirements and are cost effective. Developing nations must be assisted in building up an energy-efficient capital stock by accelerating the deployment of low energy intensity processes and equipment, and strengthening national capabilities for energy efficient design and manufacturing.

26. The energy-related activities of UNIDO constitute a direct response to developing countries' efforts to implement this Convention. In 1995 and the forthcoming biennium, UNIDO will use its analytical capacity and its technical expertise:

(a) To help developing countries and countries with economies in transition prepare national "communications" on their greenhouse gas emissions;

(b) To analyse the impact of climate change response measures on the economic and industrial development of developing countries, with the view to identifying economically viable technology options for reducing greenhouse gas emissions from the production and consumption of energy;

(c) To support technology transfer for improvement in the efficiency of fossil fuel-based power generation, with concomitant improvements in environmental performance;

(d) To promote technology transfer for the use of renewable sources of energy;

(e) To develop and implement technology transfer for energy efficiency programmes in industry, in complementarity with cleaner production/pollution prevention measures.

27. Regarding (a) above, signatory countries to UNFCCC are required to provide inventories of greenhouse gas emissions in the energy and industrial sectors. UNIDO will help developing countries and countries with economies in transition to apply the relevant guidelines and prepare the required inventories. It could also assist the UNFCCC secretariat in the technical review of national communications, starting with those received from countries with economies in transition.

28. On (b), in response to its intervention before the First Conference of the Parties to the United Nations Framework Convention on Climate Change (Berlin, 28 March - 7 April 1995), UNIDO was requested by the Chairman of the New York Chapter of the Group of 77 to undertake a study on the impact of climate change mitigation measures on the economic and industrial development of developing countries. This study has been initiated in 1995 and will be concluded in the course of the next biennium. The objective of the study is to identify economically viable options for reducing the rate of growth of greenhouse gas emissions from developing countries without increased impacts on the growth of their industrial activities, but aiming at an improvement of the health and quality of life of the population. Measures to be identified and evaluated in the study will focus on improved industrial energy end-use efficiency, and fuel switching. These activities offer opportunities for significant reductions in greenhouse emissions and are relevant to the technical cooperation programmes of UNIDO.

29. The study will prioritize technology options for developing countries with respect to emissions reductions, energy savings, additional environmental benefits and costs. It will evaluate the impact on industrial and socio-economic development of accelerated introduction of low energy intensity industrial technologies. It will identify the impacts of deploying new and energy-efficient versions of widely used industrial processes and equipment and evaluate the potential for direct energy savings by reducing energy use per unit of physical output.

30. Point (c) above will be addressed by such operational initiatives as the UNIDO clean coal technology programme and the promotion of fossil fuel-based technologies that maximize conversion efficiency and heat recovery in power generation.

31. In its support of (d), the development of alternate sources of energy, UNIDO has already initiated a programme on biomass energy for industrial development in Africa. At this point, the programme is being initiated in Kenya, Uganda and the United Republic of Tanzania. During the first phase of the programme, the potential and actual uses of biomass will be analysed in each participating country, including the inefficiencies in current utilization of biomass energy. It is anticipated that the main phase of the programme will build national capacities to develop biomass resources and to promote their efficient utilization. A similar programme is being developed for the Asia and Pacific region. The launching of these regional biomass energy programmes will be supported by an International Conference on Biomass Energy, which UNIDO will hold in December 1995. In addition, UNIDO will maintain its promotional role in renewable energy resources by providing policy advice and technical support to countries through, in particular, the Centre for Applied Solar Energy located at Perth, Australia.

32. As regards (e), industrial energy efficiency, UNIDO introduces energy auditing and optimization as an important component of its sectoral and cross-sectoral

programmes on cleaner production. More recently, however, there has been a demand for stand-alone projects in this field. An effort in China funded by the Global Environment Facility (GEF), for example, will require UNIDO to develop a programme to select, demonstrate and propagate energy efficiency technologies in selected industrial branches within the town and village enterprises sector in that country.

33. Much of UNIDO's energy-related work, which is increasing in importance, will thus need to focus on GEF, which awards first priority to climate change. At present, UNIDO acts as an executing agency for GEF projects on behalf of UNDP. The role of UNIDO in this field could, no doubt, be further enhanced.

C. Basel Convention

34. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal has a close bearing on UNIDO work on chemical safety. While the Convention does not have a financial facility associated with it, its secretariat has initiated a programme whereby it will soon set up regional centres for training and technology transfer for the safe handling and disposal of hazardous wastes. The secretariat of the Basel Convention has accepted a UNIDO proposal to closely link the UNIDO/UNEP NCPCs in each region to the respective regional centre set up under the Basel Convention. Those centres could be utilized as training facilities for NCPC staff and as a support resource for national capacity-building initiated by each UNIDO/UNEP NCPC, in respect of the safe use of chemicals in industrial processes.

D. Convention on Biodiversity

35. As already mentioned above, the follow-up of chapter 16 of Agenda 21, Environmentally sound management of biotechnology, was reviewed at the third session of CSD. UNIDO, as United Nations system-wide Task Manager on chapter 16, prepared the report by the Secretary-General on this subject. The discussions at CSD, at both intergovernmental and non-governmental levels, revealed a profound concern on biosafety issues arising from the release of genetically modified organisms. CSD specifically requested the secretariat of the Commission on Biodiversity to examine the question of biosafety arising from the release of genetically modified plant species. On its part, UNIDO has recognized the importance of the issue as testified by its work, together with FAO and WHO, on voluntary guidelines for biosafety, and more recently through the development of the Biosafety Information Network and Advisory Service (BINAS).

36. Given the concerns of CSD, the role of UNIDO as Task Manager for biotechnology, and the need to establish a scientific and technical appraisal of issues, UNIDO proposed to UNDPCSD that it host a round table on the safe management of biotechnology, as a follow-up to the discussions of CSD. The round table would have as wide a scope as possible in order to provide an overview of issues and identify the actions required from national and international bodies dealing with biotechnology. For this reason, the round table would deal with the safe management of biotechnology rather than with biosafety alone. The safe management of biotechnology would encompass safety practices in research and development, testing and open release stages of the development of products through the use of biotechnology. Furthermore, the issue of safety practices would have to be reviewed within the context of specific sectoral applications of biotechnology, i.e. the pharmaceutical industry, the agricultural sector and the environment industry. In each of these development stages and sectoral applications, there is a need to look at trends in application of biotechnology, regulations governing each stage in development, institutional and scientific capacities required to assess risk, and information support. It is anticipated that the round table will help to define a set of core activities in technical and scientific capacity building, information support and technology trends assessment, which could enable the United Nations system to identify needs and gaps and further initiatives required in responding to prevailing environmental concerns.

E. UNCED Statement of Principles on Forests

37. The Forest Principles adopted by the United Nations Conference on Environment and Development (UNCED), constituted a non-legally binding agreement. At the third session of CSD, in order to enhance action to apply these principles, it was decided to establish an open-ended *ad hoc* intergovernmental panel on forests, under the aegis of CSD. That panel is required to initiate its work in 1995, to report its progress to the fourth session of CSD in 1996 and to present its final conclusions to the fifth session of CSD in 1997. The issues to be examined by the panel are:

(a) Implementation of UNCED decisions related to forests at the national and international levels, including the examination of sectoral and cross-sectoral linkages;

(b) International cooperation and financial assistance in technology transfer;

(c) Scientific research, forest assessment and development of criteria and indicators for sustainable forest management;

(d) Trade and environment issues relating to forest products and services;

(e) The role of international organizations and multilateral institutions and instruments.

38. UNIDO intends to support the analytical work conducted by the United Nations system in support of the intergovernmental panel, particularly focusing on issue (b), i.e. the transfer of technology for the sustainable use of timber and non-timber forest products. The emphasis is on enhancing the proactive role of forest-based industries (pulp and paper, wood processing, building materials, biomass energy, and non-wood forest products) in sustainable forest management. UNIDO work on forest-based industrial development would encompass: increasing value added from secondary processing of forest products, promoting small-scale forest-based enterprises that support rural development and local entrepreneurship, and creating funds for management and conservation of forest resources. The major role of UNIDO would be in the transfer and development of environmentally sound technologies, effective resource management, and promotion of certification and testing facilities to enable adherence to emerging environmental norms. In addition, UNIDO would use its participation in the deliberations of the panel to develop joint programmes with United Nations agencies and other programmes in the sustainable industrial transformation of those forest products.

F. Freshwater resources

39. While there is no international convention on the protection or use of freshwater resources, the demand on global freshwater resources is becoming an increasingly prominent preoccupation. The fifty-second session of the United Nations General Assembly will consider the issue of global freshwater resources, and the Administrative Committee on Coordination (ACC) Subcommittee on Freshwater Resources has been mandated by CSD to prepare a global freshwater assessment for the period up to the year 2025, to facilitate the deliberations of the General Assembly. As reported previously, the role of UNIDO is to develop an assessment of freshwater resource consumption by industry that will be provided to the ACC Subcommittee.

40. Utilizing its participation in the ACC Subcommittee, UNIDO is also developing an industry freshwater conservation programme, which will adopt a three-pronged strategy, covering:

(a) Analytical services that will provide an assessment of water consumption by industry subsector and country, projections of industrial water demand given economic growth projections, and analyses of existing pricing structures;

(b) Promotional services on the basis of water conservation potential to demonstrate/promote changes in technology (i.e. its economic efficiency) and management practices required to improve water conservation in industry;

(c) Services to the development of industry and water supply infrastructures that would assess weakness in water supply infrastructure, design, promote and standardize equipment for overcoming gaps and involve industries and various levels of public authorities.

In doing this UNIDO will coordinate efforts with all concerned members of the ACC Subcommittee.

G. Conclusion

41. In concluding this chapter, it is relevant to underscore the importance of GEF to the implementation of some of the conventions and agreements just discussed. The GEF is the financing facility for UNFCCC and the Convention on Biodiversity, two conventions for which UNIDO can develop significant programmes. As of now, UNIDO has two operational projects funded by GEF, worth $6.6 million. Those projects are in the areas of protection of international waters and preservation of biodiversity. UNIDO has submitted four pipeline projects to UNDP for GEF funding, for a total value of $15.13 million. The pipeline projects are in the areas of biodiversity, climate change (two projects) and protection of international waters.

IV. INDUSTRY AND INTERNATIONAL ENVIRONMENTAL NORMS AND STANDARDS

42. While the Uruguay Round of Agreements is widely recognized as offering unprecedented opportunities for liberalized trade, one of the most significant challenges for participation in the global economy is the need for adjustment to the technology requirements of international markets. In many cases, technical limitations may pose involuntary non-tariff barriers or marketing barriers that constrain opportunities afforded to enterprises in developing countries. Especially for the European market, the requirement for third-party certification of ISO 9000 is becoming one of the most evident technical compliances. The wide scope of these standards is affecting mainly small and medium enterprises that already apply many required procedures on an informal basis. The large amount of human and financial resources required to comply fully with ISO 9000 requirements is intimidating to entrepreneurs.

43. In addition to the quality system-related concerns, UNIDO is following the ongoing efforts of industrialized countries to promote eco-labelling and environmental management systems. The sheer number and diversity of the various aspects of eco-labelling is overwhelming.

The numerous national initiatives, primarily government sponsored, began when the Government of Germany introduced "Blue Angel" eco-labelling in 1978. It now covers more than 3,500 products in almost 80 categories. Canada was the second country to initiate an eco-labelling scheme, called "Environmental Choice Program", in 1988, and Japan launched its "Eco Mark" scheme in 1989. There are now approximately 20 national eco-labelling schemes world-wide including those in several developing countries, such as the Republic of Korea ("Ecomark"), Brazil ("Green Seal") and Singapore ("Green Label"). The European Union (EU) has developed an eco-labelling scheme intended to replace the national labelling programmes of its member States, which is now being implemented.

44. The growing diversity of activities related to environmental management and the need for a wider government involvement, as well as the success of the ISO 9000 series on Quality Management Systems, also encouraged the International Organization for Standardization (ISO) to enter the field of environmental management. In 1991, ISO and the International Electrotechnical Commission created the Strategic Advisory Group on the Environment (SAGE), a panel of experts from member countries. Those experts considered whether international management standards would be instrumental in:

(a) Promoting an approach to environmental management similar to the approach for quality systems;

(b) Enhancing an organization's ability to improve its environmental performance and to measure the improvement;

(c) Facilitating trade and the removal of trade barriers.

The Technical Management Board of ISO followed the recommendations of SAGE and created the Technical Committee 207 (TC 207) in 1993 to develop international management standards (ISO 14000 series), the draft of which is expected to be released by the end of 1995.

45. From the foregoing, it is clear that continuous and complex challenges need to be faced by developing countries to maintain an adequate level of participation in foreign markets. In addition, competition will also increase in the local markets as a result of quality of goods and higher productivity levels attained in industrialized countries.

46. UNIDO has already taken up industry subsector-specific examination of problems arising from eco-labelling schemes. In the case of the leather and leather products industry, the UNIDO Leather Panel requested the Organization to take up an examination of the issues in this sector. UNIDO prepared a technical study on the incidence and types of eco-labelling employed in the subsector. The study was presented to the Leather Panel, and UNIDO has been requested, together with international industry associations:

(a) To draw up internationally acceptable technical guidelines for eco-labelling schemes that could ensure neutral comparison among various national and regional standards;

(b) To develop an approach toward and provide technical support to technical service institutions in developing countries, that could provide the analytical, technical, and certifying services to award eco-labels to enterprises and products in developing countries.

The example of the leather industry will be explored for its applicability to other subsectors, such as the textiles and garment industry.

47. In October 1994, UNIDO convened an expert group meeting to examine issues on an industry-wide basis. That expert group meeting discussed the potential effects of ISO 9000 and ISO 14000 series of standards as well as the effects of eco-labelling on the trade of developing countries. UNIDO will examine the conclusions of this meeting and, based on its studied position, will develop a suitable follow-up technical cooperation programme for the 1996-1997 biennium.

V. ACTION REQUIRED OF THE CONFERENCE

48. In the previous chapters, the present document described the priorities of the UNIDO environment- and energy-related programme and the approach of the Organization, which links its technical support to its analytical capacities and international policies and trends. The General Conference may wish to:

(a) Endorse the priorities set out in the present document;

(b) Encourage the donor community to increase funding of the priority programmes and projects identified in the present document.

Notes

1. See GC.6/5, para. 150; IDB.14/10, chap. II.A.4, para. 102; IDB.14/13, para. 55.

2. See IDB.14/10, chap. II.A.4, para. 101.

3. See IDB.13/10, para. 97; IDB.13/12, para. 130; IDB.14/10, chap. II, A.4, para. 96; IDB.14/13, para. 59.

4. Cf. IDB.13/12, paras. 128-129; IDB.14/10, chap. II.A.1, paras. 5, 12, 13, 17, 18, 24 and 25.

5. See IDB.13/12, para. 151; IDB.14/13, paras. 71-75.

6. "Blueprint for Clean Industry - Conclusions and recommendations of the ESID Ministerial Conference", para. 28 (b), (PI/III/Rev.2).

7. Article 2: "Objective of the UNFCCC".